

Mel-o-Flo®

COOLANT-AERATOR INSTALLATION INSTRUCTIONS

1954

FOR BEST RESULTS, PLEASE . . . READ BEFORE REACHING FOR A WRENCH.

5/12/45/450

GENERAL INFORMATION

1. The MEL-O-FLO COOLANT-AERATOR connects directly to the present coolant line, and mixes atmospheric air with coolant resulting in a non-splash aerated mixture. The MEL-O-FLO COOLANT-AERATOR may be used with soluble oils of any ratio, and also with light oils on any type of machine tool, on any kind of metal.
2. A simple, rugged, self-cleaning mechanism prevents the MEL-O-FLO COOLANT-AERATOR from clogging, by purging the aerator of chips and sludge, enabling uninterrupted machining. The self-cleaning feature is very helpful on any machine tools which do not have a filter in their coolant supply line. The self-cleaning operation occurs automatically whenever the coolant supply is turned off and on. See Figs. 1 and 2.

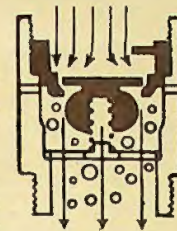


Fig. 1
AERATING
OPERATION

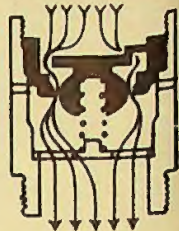


Fig. 2
SELF-CLEANING
OPERATION

INSTALLATION

A. MACHINES WITH SINGLE COOLANT OUTLET

1. Connect the MEL-O-FLO COOLANT-AERATOR to the coolant line. Use a wrench to install the $\frac{3}{8}$ " pipe connector. The other parts of the Coolant Aerator are knurled for hand-tightening, which is sufficient.
2. The MEL-O-FLO COOLANT AERATOR requires a minimum of 1.2 GPM @ 5 PSI to aerate properly. If there is any doubt about the pump producing sufficient pressure, place a gage before the aerator as indicated, Fig. 3. If the pump does not deliver 5 PSI, either adjust the pump by-pass, or replace with a higher capacity pump.
3. Adjust the valve to give the desired flow. The stream of aerated coolant should be $\frac{3}{4}$ " in diameter and filled with bubbles.
4. For maximum anti-splash characteristics, keep the end of the coolant hose or nozzle close to the work or tool. The best location for the aerated stream is determined by trial.
5. If the ordinary cycle of operation does not include shutting off the coolant supply, it is a good practice to do so occasionally, to allow the self-cleaning mechanism to purge the aerator of chips and sludge.

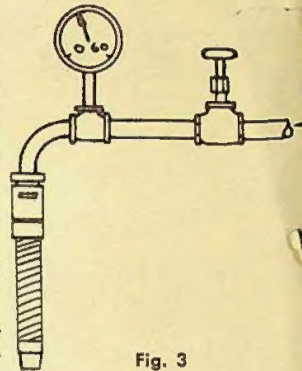


Fig. 3

B. MACHINE TOOLS WITH SEVERAL COOLANT OUTLETS

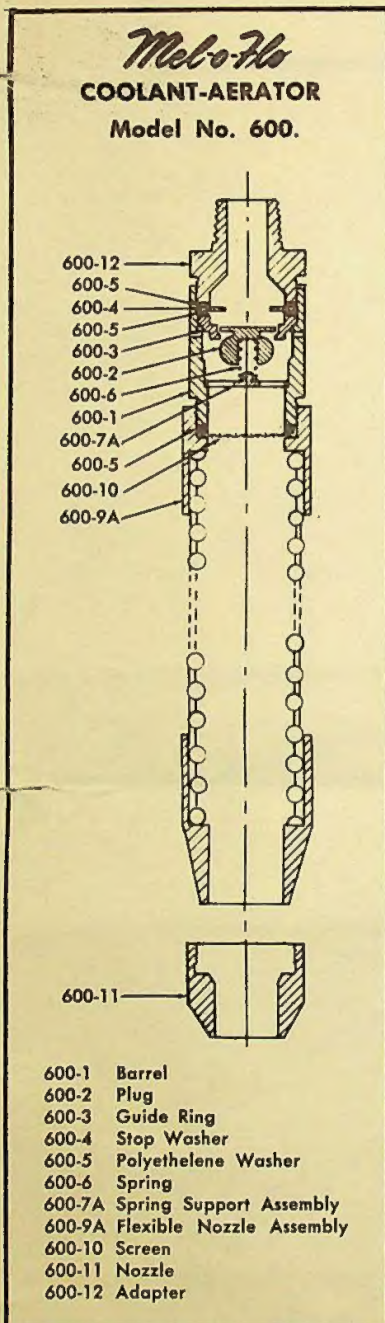
1. Connect the MEL-O-FLO COOLANT-AERATOR to all outlets or plug the others; otherwise, sufficient flow will not be obtained through the aerator.
2. If insufficient flow occurs with the Coolant Aerator connected to all the outlets, several of the aerators should be removed and the others located to give maximum cooling. The superior wetting and clinging action of the MEL-O-FLO COOLANT-AERATOR may enable operation with one Coolant Aerator, where two nozzles were previously required.
3. If insufficient cooling occurs at a result of #2, a higher capacity pump should be installed to allow use of additional coolant aerators.

C. AUTOMATIC MACHINE TOOLS

A gage (0 to 60 PSI) may be installed ahead of the aerator on any automatic machine, such as a screw, lathe or grinder. The operator should determine the normal working pressure when the valve is in the normal open position. If the pressure rises above this normal pressure, it means that chips are gathering in the aerator and the coolant supply valve should be turned on and off momentarily. This interruption of the coolant flow will quickly purge the aerator of chips and return the pressure to its normal value. The coolant supply may be interrupted automatically by various means, such as a pressure sensitive valve or mechanical means. Our engineering department is available for advice on this type of installation.

OPERATION

1. The stream of aerated coolant should be $\frac{3}{4}$ " in diameter, and filled with bubbles. If the stream is not full or if coolant leaks out of the air ports, try the following:
 - a. Turn the supply valve off and on several times to operate the self cleaning mechanism.
 - b. Remove the flexible hose or nozzle end, and inspect the screen for chips. Clean if necessary.
 - c. Remove the aerator barrel (part 600-1) and inspect the gear plug (part 600-2) for chips. Clean if necessary.Under most conditions, the self-cleaning operation is sufficient to restore the full stream, and dismantling is not necessary.
2. The MEL-O-FLO COOLANT AERATOR will operate properly without the screen (part 600-10) and its removal is recommended under the following conditions:
 - a. If coolant persists in leaking out of the air ports after the aerator has been cleaned as recommended in the preceding paragraph.
 - b. When using a coolant more viscous than a soluble oil.
 - c. When the aerator is installed horizontally. For such operation, it is also advisable to locate the end of the flexible hose below the level of the aerator.



- 600-12 Adapter
- 600-11 Nozzle
- 600-10 Screen
- 600-9A Flexible Nozzle Assembly
- 600-7A Spring Support Assembly
- 600-6 Spring
- 600-5 Polyethylene Washer
- 600-4 Stop Washer
- 600-3 Guide Ring
- 600-2 Plug
- 600-1 Barrel

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PRICE SCHEDULE - OCTOBER 25, 1954

MEL-O-FLO COOLANT AERATORS

<u>MODEL NO.</u>	<u>DESCRIPTION</u>	<u>PRICE</u>	<u>WGT/UNIT</u>
600	MEL-O-FLO COOLANT AERATOR WITH 12" FLEXIBLE HOSE & NOZZLE Operator Range 5 - 60 psi.	\$ 17.50	2½ lbs.
601	MEL-O-FLO COOLANT AERATOR WITH NOZZLE Operating Range 5 - 60 psi.	14.50	½ lb.
602	MEL-O-FLO COOLANT AERATOR WITH 6" FLEXIBLE HOSE & NOZZLE Operating Range 5 - 60 psi.	17.25	2 lbs.
603	MEL-O-FLO COOLANT AERATOR WITH 9" FLEXIBLE HOSE & NOZZLE Operating Range 5 - 60 psi.	17.40	2½ lbs.
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700	LOW-PRESSURE MEL-O-FLO COOLANT AERATOR WITH 12" FLEXIBLE HOSE & NOZZLE Operating Range 2 - 20 psi.	17.50	2½ lbs.
701	LOW-PRESSURE MEL-O-FLO COOLANT AERATOR WITH NOZZLE. Operating Range 2 - 20 psi.	14.50	½ lb.
702	LOW-PRESSURE MEL-O-FLO COOLANT AERATOR WITH 6" FLEXIBLE HOSE & NOZZLE Operating Range 2 - 20 psi.	17.25	2 lbs.
703	LOW PRESSURE MEL-O-FLO COOLANT AERATOR WITH 9" FLEXIBLE HOSE & NOZZLE Operating Range 2 - 20 psi.	17.40	2½ lbs.

Terms: 1% 10 days

F.O.B. New York

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